

No barbels under the head. One pair of prenasal barbels. Velvet-like teeth upon the intermaxillaries and lower jaw. Palate smooth. Eyes very small, situated on the upper surface of head. Opercular apparatus prickly. Branchial openings not continuous under the throat. Fins without any spiny rays. Skin scaleless and smooth.

6. *TRICHOMYCTERUS MACULATUS*, Cuv. & Val. Hist. Nat. Poiss. xviii, 1846, 493.

—GUICH. in *Gay's Hist. de Chile*, Zool. II. 1848, 311.

Caught in the Rio Mapocho, near Santiago, Chili.

CLUPEIDÆ.

7. *ALOSA MUSICA*, G.—Body subfusiform, elongated, compressed and tapering posteriorly. Origin of ventrals opposite the middle region of dorsal. Posterior extremity of upper maxillary reaching the vertical of anterior rim of pupil. Lower jaw longest. Back bluish; sides silvery. A series of from nine to eleven roundish spots along the sides.

From Caldera Bay, Chili.

8. *ENGRAULIS PULCHELLUS*, G.—Body subfusiform, slender and compressed. Origin of ventrals situated in advance of anterior margin of dorsal. Vent immediately opposite the hind margin of same fin. Scales higher than long. Dorsal region purplish; sides of head and body silvery.

From Caldera Bay, Chili.

CHARACINI.

Genus CHEIRODON, Girard.

Body compressed: abdomen not serrated. Adipose fin present. Teeth upon the maxillary, the intermaxillary and the dentary; disposed in a single series along both jaws, and dilated towards their edge, which exhibits generally five acute points. No canine. Palate without teeth. Scales large. Gill openings large. Branchiostegal rays three in number. Pharyngeal teeth velvet-like, very minute. Dorsal fin situated between the ventrals and the anal.

9. *CHEIRODON PISCICULUS*, G.—Snout short and rounded; eyes rather large. Maxillary teeth very small and few. Dorsal fin higher than long. Caudal forked. Anal nearly as deep as long. Ventrals and pectorals slender. Scales proportionally very large, higher than long. A silvery band along the middle of the flanks, margined above with black. Fins unicolor, olivaceous.

Inhabits the ponds in the vicinity of Santiago, Chili.

MYXINOIDEA.

10. *BDELLOSTOMA POLYTREMA*, G.—Fourteen respiratory apertures and gills on either side. Twelve teeth on either side in the posterior, as well as in the anterior row. Eyes present. Color not preserved in the specimen before us.

From the Bay of Valparaiso, Chili.

Notice of some Fossil Bones discovered by Mr. Francis A. Lincke, in the banks of the Ohio River, Indiana.

By JOSEPH LEIDY, M.D.

Through the kindness of my friend, Dr. J. G. Norwood, of New Harmony, Indiana, I have had the opportunity of examining a collection of fossil bones, which were obtained by Mr. Francis A. Lincke, from the banks of the Ohio River, near the mouth of Pigeon Creek, a short distance below Evansville, Indiana. The bones are usually found in this locality sticking in the bank, when the water in the river is low.

The specimens are thoroughly impregnated with oxide of iron, which also serves as a cement to adhering pebbles, sand, fragments of Unios, and shells of the species of *Melania canaliculata*, *Paludina ponderosa*, etc.

The collection contains bones of the following animals :—

MEGALONYX JEFFERSONII, *Harlan*.

- a. Two tibial diaphyses of the left side of young individuals.
- b. A vertebra dentata.
- c. A fragment of an os calcis.
- d. A metacarpal and a metatarsal bone.
- e. An ungual phalanx.

BISON AMERICANUS? (*fossilis*).

- a. A fragment of a cervical vertebra.

CERVUS VIRGINIANUS (*fossilis*).

- a. Proximal half of a tibia.
- b. Distal half of a tibia.
- c. Proximal half of a metacarpal bone.
- d. Proximal and distal halves of two metatarsal bones.
- e. Portions of two scapulæ.
- f. Proximal portion of a first rib.
- g. The mutilated cranium of a doe.
- h. The superior portion of the cranium of a buck; the antlers having been shed.
- i. Three portions of as many lower jaws of different ages. One contains the back five molars very much worn away; a second contains the last two molars a little worn; and the third contains all the molars, but the last temporary one has not been shed, nor is the last true one protruded. All these specimens correspond in size with the same parts of large individuals of the existing *Cervus virginianus*, and have the same form; and they probably belonged to the same species. Besides these specimens, fossil bones of a deer not larger than the *Cervus virginianus* have been found in association with bones of the *Megalonyx*, *Mastodon*, &c., in the vicinity of Natchez, Mississippi. In the cabinet of the Academy there are several specimens from this locality, consisting of a portion of a lower jaw, a fragment of an antler, and the posterior and inferior portions of two crania.

EQUUS AMERICANUS, *Leidy*.

- a. The last dorsal vertebra.

TAPIRUS.

- a. An inferior back molar tooth of an old individual. The crown is much worn and the fangs are long, spreading, and thickened. It is larger than in the recent *Tapir americanus*, and belongs to the supposed extinct species which I have designated as *Tapirus Haysii*.

CANIS PRIMEVUS, *Leidy*.

This name is proposed for a species of wolf, which I suppose to be indicated by a specimen, in Mr. Lincke's collection, of a left upper maxillary bone containing the posterior five molars, all of which are nearly entire except the penultimate one. The fragment, however, only differs from the corresponding part of the recent *Canis lupus* of Europe and its American congeners, in being rather larger (about one sixth), and in its having slight variations in several of the molar teeth. Certain naturalists may regard the fossil as an indication of a variety only of the *Canis lupus*, and of the correctness of such a view I shall not attempt to decide. Naturalists have not yet settled among themselves the question of how far characters of a specific value may be obtained from the skulls and teeth of many genera. Most naturalists regard the *Canis lupus*, of Europe, and the *Canis occidentalis* and many other wolves of America as of the same species. Certainly they possess no important osteological differences, but the same may be said of the grizzly bear, the polar bear, and the brown bear, or of the horse, the ass, and the zebra, or of the lion, the tiger, and the panther, etc., etc. Those who have attempted to define a species, I think, have gene-

rally given too much value to a mere convenient word, with which naturalists empirically designate groups of organized beings possessing characters of comparative constancy, so far as historic experience has guided them in giving due weight to such constancy.

The question of the origin of species, whether from a single pair or from a plural stock, whether by ascent from the lowest form of life, in gradually diverging series, or whether through innumerable miraculous interpositions, I think is entirely independent of the former question.

To return to the fossil; the maxilla has the same form externally as in the corresponding bone of the recent wolves with which I have compared it. The infra-orbital foramen is on a line vertical to the interval between the third and fourth molar teeth, which is slightly farther back than in any of the skulls of recent wolves examined.

The penultimate molar is less concave posteriorly than in our recent specimens; and its antero-posterior diameter internally is greater in relation to the same diameter externally; in other words, the tooth internally is less narrowed than in recent wolves. It is also broader in the antero-posterior diameter when compared with its transverse diameter. Its basal ridge externally is more abrupt and is slightly mammillated at its border. The second and third molars have their basal ridge internally more developed, which is also the case with the internal oblique ridge descending towards the cusp anteriorly.

The principal measurements of the fossil, in comparison with those of the corresponding part in recent wolves are as follows:

MEASUREMENTS.					
	Canis lupus, of Europe,	Canis occidentalis, of Pennsylvania,	White Wolf from Nebraska.	Canis rigens, Townsend, from Oregon,	Canis primævus, (fossil.)
From base of crown of third molar to the upper margin of maxilla,	<i>lines</i> 24	21	24	26	31
From base of crown of fourth molar to upper margin of maxilla,	36	30	34	36	41
From back of last molar to canine alveolus,	43	39½	42½	46	53
From back of last molar to front of second molar,	37	34½	35½	39	45
Antero-posterior diameter of penultimate molar externally,	8	7½	8	8	9
Ditto, at middle,	6½	5½	6	6	7½
Breadth of do.	10½	10	10½	10½	11½
Antero-posterior diameter of ante-penultimate molar	13	11½	12½	13	16

On motion of Mr. Foulke, it was *Resolved*, That a copy of the Proceedings of the Academy be presented to the Natural History Society of Schuylkill Co., Penn., at Pottsville.

ELECTIONS.

Dr. Thomas Newbold, Mr. Francis Fassitt, and Mr. John A. Guex, all of Philadelphia, were elected *Members*; and Mr. S. S. Rathvon, of Lancaster, Penn., Mr. R. K. Winslow, of Cleveland, Ohio, and Prof. E. Brücke, of Vienna, were elected *Correspondents*.